

SECTION 02955

MITIGATION ESTABLISHMENT

PART 1 GENERAL

1.1 SUMMARY (Not Applicable)

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z60.1 (1986) American Standard for Nursery Stock

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 2607 (1969) Peats, Mosses, Humus, and Related Products

FEDERAL SPECIFICATIONS (FS)

FS 0-F-241 (Rev D) Fertilizers, Mixed, Commercial

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTALS: A delivery schedule shall be submitted at least 10 days prior to the intended date of the first delivery.

SD-04, As-Installed

The Contractor shall maintain one set of records to show as-built conditions. Hard copies and electronic files of the original site drawings will be provided upon request. These records shall be kept current and available to the Government upon request. All information which might be uncovered during the course of planting shall be accurately and neatly recorded as they occur by means of drawings, sketches, details, and notes. The record shall show, as a minimum, a complete list of all plants by species, size, location and date(s) planted. The location of the plantings shall be documented by marking-up a copy of the contract drawings. The exact location of each planting need not be determined with surveys, but shall be representative of their location in relation to their surroundings. These drawings shall be supplemented with reports providing the rest of the required information.

Hard Copy Media: All As-Installed drawings shall be on 22"x 34" or 11" x 17" bond, vellum or mylar. All sheets shall contain the standard Corps of Engineers border. An electronic copy may be obtained from the Contracting Officer.

Electronic CADD Format: All As-Installed drawings shall be saved in a

AutoCad Release 14 for use on NT 4.0 Operating System. All files shall be submitted on 3-1/2" disk or readable CD. Specific instructions for labeling disks or CD-ROMs, directory structure, indexing and additional documentation requirements are listed on the Internet. (Internet Address: <http://www.cbbs.spk.usace.army.mil/html/aeguide.html>.)

SD-07, Schedules

A list of the proposed pesticide application equipment to be used in performance of the planting work, including descriptive data and calibration tests.

SD-08, Statements

1. Delivery
2. Application of Pesticide Material

SD-09, Reports

Soil Test; GA. Percolation Test; GA.

Certified reports of inspections and laboratory tests, prepared by an independent testing agency, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.

SD-13, Certificates

Soil Amendments; FIO. Plants; FIO.

Certificates of compliance certifying that materials meet the requirements specified, prior to the delivery of materials. Reports for the following materials shall be included.

- a. Topsoil: Not Applicable.
- b. Fertilizer: For chemical analysis and composition percent.
- c. Agricultural Limestone: For sieve analysis and calcium carbonate equivalent.
- d. Peat: For compliance with ASTM D 2607.
- e. Plant Materials: For botanical and common name, size, quantity by species, grade, nursery grown.
- f. Pesticide Material: For EPA registration number and registered uses.

SD-18, Records

Maintenance Report; GA Establishment Period Yearly Reports; GA.
Maintenance Instructions; GA
Maintenance Report; GA. Daily Mitigation Maintenance Record (Form A)

The Contractor shall maintain one set of records of all maintenance performed during the Establishment period. The records shall be kept current and available to the Contracting Officer upon request. The records shall be jointly inspected for accuracy and completeness by the Contractor and the Contracting Officer. The record shall be up to date and completely

filled out and shall include a minimum of the following: (See List of Appendices , Form A, DAILY MITIGATION MAINTENANCE RECORD. A copy of this form shall be filled out for each site visit. An electronic copy of this form (in Wordperfect 6.0 for Windows is available upon request).

- Date of work
- Site location
- Name of person performing work
- Purpose of visit
- Weather conditions at time of visit
- Watering information
- Damaged items
- Cause of damage
- Include comments that help identify and/or explain significant observations.

Establishment Period Yearly Reports; GA. The establishment period shall begin immediately following the "Installation Acceptance". During the establishment period yearly reports shall be submitted in accordance with the following criteria.

1. Yearly reports shall be submitted to the Government at the end of each year following "Installation Acceptance". Each report shall be submitted in 8.5"x 11" bound report form. It is not necessary to submit site drawings with the yearly reports, but shall be required with the Final Yearly Report. When drawings are submitted, folded 11"x17" sheets are acceptable. All yearly reports shall be submitted by the Contractor within thirty (30) days following the yearly inspection. Submit 3 copies of each yearly report. Each report shall include a minimum of the following information.

2. Title Sheet: which shall include the following:

- a. Official name of project
- b. Name of Report
- c. Appropriate year report is submitted for, i.e., First Year, Second Year, Third Year
- d. Name of Agency report is prepared for
- e. Name of Company that prepared report
- f. Official Contract Number
- g. Date report is prepared

3. Dialog of Project Conditions, which shall include the following:

- a. An overview of individual site characteristics: physical and climatic
- b. Significant events that occurred throughout year that could have impacted plants.
- c. A discussion of the overall vigor of the plants and those factors that influenced and determined these results.
- d. Summary of maintenance activities

4. Plant Count Methodology used: identify and describe and include the actual date when count was performed.

5. Form B, YEARLY SURVIVAL SUMMARY:

- a. Plant installation amounts for each species at each site.

- b. Survival and mortality counts and percentages for each species at each site.
- c. Provide plant survival table(s) for the project as a whole.
- d. Reasons suspected why losses occurred, i.e.; vandalism, drought, gophers, poor stock, etc.

6. Form C, OVERALL SURVIVAL SUMMARY: Each years report shall include survival totals identified on this form from all previous years.

- a. Plant installation amounts for each species at each site.
- b. Survival and mortality counts and percentages for each species at each site.
- c. Provide plant survival table(s) for the project as a whole.

7. Replacement Plant List: Provide a list of the proposed plant species and amounts (submitted for the approval of the Contracting Officer) for each site where plant replacement is required.

8. Form A, DAILY MITIGATION MAINTENANCE RECORD: Provide a copy of the completed as-built/as-maintained records of each of the maintenance items done throughout the year. (See previous paragraph "Maintenance Report".)

9. Final Yearly Report shall include, along with the above mentioned material, copies (8-1/2" x 11" or 11" x 17" size) of the As-Maintained drawing records. These drawing records may be reduced from the standard 22"x 34" drawings.

10. Final Drawings shall be compiled from Final Yearly Reports. Drawing(s) shall be presented on standard Corps of Engineers 22" x 34" or 11"x 17" sheet format. The final record shall include the "Installation Acceptance" As-Built planting record and shall have incorporated the As-Maintained record information. The final record shall indicate the status of all installation locations of individual species as well as final locations of surviving plants. The final record shall also include the maintenance performed for the project up to the time of the "Acceptance of Maintenance Period". The final record shall be submitted to the Contracting Officer within 30 days of final "Acceptance of Maintenance Period".

Maintenance Instructions; GA. Written instructions for year-round care and upkeep of installed plants, landscaping and irrigation system.

1.4 INSPECTIONS

Inspections of plant establishment work shall be accomplished according to the schedule herein and conducted jointly with the Contracting Officer and an approved representative of the Contractor. All inspections shall be arranged by the Contractor according to the following schedule and shall give at least 5 days notice to the Contracting Officer. Inspections shall be for the purpose of checking adherence will be put in writing by the Contracting Officer and acted upon by the Contractor within 10 days notice at his/her own expense.

1.4.1 Periodic Inspections

Two times a year the Contracting Officer and the Contractor's Representative shall conduct a joint inspection of the planting site. All watering determined at this time to be necessary by the Contracting

Officer shall be corrected immediately by the Contractor. All weeding, and plant protection screen realignment determined at this time to be necessary by the Contracting Officer shall be corrected by the Contractor within 14 days of the inspection. Plants determined to be dead at these inspections need not be replaced at this time. Periodic inspections will be conducted at approximately; early May and August.

1.4.2 Yearly Inspections

Yearly inspections for all three years of establishment will be conducted jointly by the Contracting Officer and the Contractor at the site. These yearly inspections will take place at the end of each year (as affixed from the start of the "Establishment Period") and will continue throughout the duration of the Contract. Plant replacement of all dead plants will be required at this time of all plants over the allowable mortality rate. (See section 3.1.4 "Plant Replacement" of this spec for allowable mortality)

1.4.3 Final Inspection

A final inspection shall be requested in writing by the Contractor at least 5 working days prior to the desired date. Time of the inspection shall be established in writing. At the final inspection, the Contracting Officer will evaluate the deficiencies noted in the preliminary inspection and verify that all deficiencies have been corrected. An "Installation Acceptance" will be given after all installation requirements have been satisfactorily completed and approved by the Contracting Officer. PARTIAL ACCEPTANCE OF ANY ITEM OR COMBINATION OF ITEMS WILL NOT BE GIVEN. A written acceptance by the Contracting Officer shall constitute the end of the Establishment Period.

1.4 WARRANTY

All materials installed under this Contract shall be guaranteed a sustainable quality and workmanship, as determined by the Contracting Officer. The Contractor shall be responsible for the replacement and expense of all deficiencies. Furnished plants shall be guaranteed to be in a vigorous growing condition with 100% survival at time of Installation Acceptance.

1.6 ESTABLISHMENT PERIOD

The Establishment Period begins, when all elements of the "List of Required Work", Technical Specifications and Drawings have been satisfactorily completed and an "Installation Acceptance" has been given. The Establishment Period will continue for 1095 days.

PART 2 PRODUCTS

2.1 MATERIALS

All material used shall conform to the specifications and the approved Detailed Plan.

PART 3 EXECUTION

3.1 EXISTING VEGETATION PROTECTION

Existing vegetation that is to be preserved shall be barricaded in a manner that will effectively protect them during planting operations.

3.2 MAINTENANCE ITEMS

The following maintenance items are required and shall be kept current by the Contractor as necessary or as directed by the Contracting Officer at the periodic and yearly inspection, but not necessarily limited thereto.

3.2.1 Irrigation

Plants must receive clear non-toxic water in the amounts specified herein. At the Contracting Officer's request, a water sample analysis of mineral and chemical contents shall be provided by the Contractor. The Contractor shall be responsible for keeping the plants moist to promote growth. Water shall not be applied at a rate that will cause erosion, damage to the plant, or cause runoff.

3.2.1.1 Application Method

Application method shall be within the guidelines of these specifications. Any method proposed that might encourage weed growth should reflect the additional effort in the weeding requirements. Ensure the system includes a filtering system as part of the method proposed.

3.2.1.2 Application Schedule

The Contractor shall be responsible for watering and keeping the newly installed plants moist during the Establishment Period. The application schedule for irrigation watering shall start immediately following "Installation Acceptance".

3.2.1.2.1 First Year Schedule

A minimum of one (1) application every seven (7) days during the months of April through October. Each application shall include a minimum of 5 gallons per plant. Additional applications shall be required during November through March, if a minimum of one-half (.5") inch of precipitation does not fall on the plants during any six week period, with no additional cost to the Government.

3.2.1.2.2 Second Year Schedule

A minimum of one (1) application every seven (7) days during the months of April through October. Each application shall include a minimum of 10 gallons per plant. Additional applications shall be required during November through March, if a minimum of one-half (.5") inch of precipitation does not fall on the plants during a six week period, with no additional cost to the Government.

3.1.1.2.3 Third Year Schedule

A minimum of one (1) application every seven (7) days during the months of April through October. Each application shall include a minimum of 15 gallons per plant. Additional applications shall be required during

November through March, if a minimum of one-half (.5") inch of precipitation does not fall on the plants during a six week period, with no additional cost to the Government.

3.2.2 Weed Control

The Contractor is responsible for controlling weed and vegetative growth competing for the plants moisture, nutrients, and sunlight.

3.2.2.1 Weeding Schedule

At a minimum of once a month, weeds shall be removed from within the plant collar and mulch area. The entire site shall be mowed to control weed competition a minimum of twice in the Spring and once in the fall for the duration of the Establishment Period. At no time shall weeds be allowed to grow un-managed and uncontrolled during the Establishment Period. Weed control as a fire prevention technique shall be practiced for the duration of the Establishment Period.

3.2.2.2 Chemical Control

Chemical control shall be of an acceptable type with application rate which meet all Federal, State and local health and water quality regulations. Application rate must be as recommended by the manufacturer and must be controlled so that planted or adjacent vegetation is unaffected. All safety measures recommended by the manufacturer will be strictly adhered to. The Contractor shall be responsible for any damage to lands, vegetation, and water resulting from improper use of chemicals.

3.2.3 Re-Setting Plants

The Contractor shall at each yearly inspection reset plants to the correct depth and upright position, if required, as determined by the Contracting Officer. This work shall include replacing or correcting lost mulch and damaged protection measures.

3.2.4 Plant Replacement

Replacement of unacceptable plants as determined by the Contracting Officer is required at the Yearly Inspections at no additional cost to the Government. It is the Contractors responsibility to pre-grow plants so that they will be available as they are needed as replacement plants for this Contract. The replacement species shall be selected by the Contracting Officer. The Government will accept as a maximum the following mortalities without the need for replacement:

3.2.4.1 First Year Replacement

Acceptable mortality for all plants at the time of the First Year Inspection is 10% of the original number of plants. Mortalities experienced less than those listed above does not relieve the Contractor from maintenance of all viable plantings.

3.2.4.2 Second Year Replacement

Acceptable mortality for all plants at the time of the Second Year Inspection is 15% of the original number of plants. Mortalities experienced less than those listed above does not relieve the Contractor from maintenance of all viable plantings.

3.2.4.3 Third Year

No plant replacement will be required at this time. This does not, however, relieve the Contractor of all maintenance items of this Contract.

3.2.5 Plant Protection Screen Adjustment

As the plant matures and fills the excess area of the protective screen, the Contractor shall open the screens to allow continued unimpeded plant growth. Screens when open, shall be monitored so as to not cause abrasion on the branches of the plant

3.2.6 Plant Protection Fence Repair

The Contractor shall be responsible for keeping the perimeter plant protection fence in good condition. All breaks shall be repaired in a timely manner so that potential beaver damage is minimized.

3.2.7 Access Road/Fire break

The Contractor shall be responsible for keeping the access road in proper operating condition for the duration of the contract. At no time shall pot holes be allowed to occur and form mud pockets.

3.3 CLEANUP

The Contractor shall maintain the planted areas in a condition clean of all maintenance debris throughout the Establishment Period. Immediately prior to the conclusion of the Establishment Period and before final inspection, the Contractor shall remove all evidence of installation and maintenance material.

3.3.1 Water Basins

Knock down all watering basins to the level of the adjacent ground.

3.3.2 Geotextile Fabric Mulch

Remove and discard properly all geotextile fabric mulch. Organic mulch shall be left in place.

3.3.3 Screen Wire Ties

Ensure all screen wire ties that hold the insect screen to the plant collar is cut and not girdling plant.

3.3.4 Irrigation Equipment

Remove and discard properly all above ground irrigation equipment and piping used on the project.

3.3.5 Location Flags

Remove all plant identification/location flags from site and discard properly.

3.3 FINAL ACCEPTANCE

After all maintenance items and cleanup have been satisfactorily completed, as determined by the Contracting Officer, the Government will issue an "Acceptance of Maintenance Period" in writing. Final payment will be withheld until the Government has received all required reports from the Contractor.